

REMARKS

Claims 1-30 remain pending in the instant application. Claims 1-30 presently stand rejected. Claims 7, 19, 26, and 30 have been amended. No new matter has been added. Reconsideration of the pending claims is respectfully requested.

Drawings

The Office Action mailed on October 15, 2007 indicated that the drawings are acceptable to the Examiner.

Claim Rejections – 35 U.S.C. § 112

Claims 19, 26, and 30 stand rejected under 35 U.S.C. § 112 because the term “substantial” is alleged to be a relative term which renders the claim indefinite. The claims have been amended to remove the term.

Claim Rejections – 35 U.S.C. § 103

Claims 1-18, 20-25, and 27-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lettvin* (US 5,826,012) and further in view of *Ho et al.*, (US 7,188,369). Claims 19, 26, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lettvin* and *Ho*, as applied to claim 1 above, and further in view of *Huntington et al.*, (US 6,907,524).

Applicants respectfully traverse the Office Action’s rejections. To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must

be a reasonable expectation of success. MPEP § 2143. As explained below, Applicants respectfully submit that the Office Action has not established a *prima facie* case of obviousness.

Example independent claim 1 of the instant patent application as presently amended expressly recites:

initializing a virus scanner during a pre-boot phase of a computer system;
**scrubbing data read from an input/output (I/O) device of the
computer system by the virus scanner using a virus signature database
before the data is loaded;** and
enacting a platform policy if a virus is detected in the data.

In rejecting claim 1, the Office Action concedes that *Lettvin* is not explicit in teaching that the virus scanner uses a virus signature database (p. 3 Office Action mailed 10/15/07). To attempt to make up for this deficiency in *Lettvin*, the Office Action cites *Ho* and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine *Lettvin* with *Ho* to arrive at the claimed invention. The Office Action claims on page 3 that the motivation for doing so would be “to allow [the] system to use a plurality of virus signatures that can be continuously updated and/or replaced.”

Applicants respectfully disagree. The combination of *Lettvin* and *Ho* does not disclose, teach or suggest a process including the limitations of claim 1. *Lettvin* is directed to software that is executed **at startup** of the computer that provides anti-virus maintenance, and/or repair functions. (see Abstract). At the very least, *Lettvin* and *Ho* in motivated combination fail to teach or suggest the limitation that includes “scrubbing data read from an input/output (I/O) device of the computer system by the virus scanner

using a virus signature database before the data is loaded.” *Lettvin* teaches against a modification that would allow it to perform the recited process steps.

“To establish a prima facie case of obviousness...there must be some suggestion or motivation...to modify the reference or to combine reference teachings. MPEP § 2143. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959), MPEP 2143.01.

Combining *Lettvin* with *Ho* as the Office Action suggests would change the principle of operation of the system disclosed in *Lettvin*. *Ho* teaches an antivirus scanning module operable with an operating system (see Abstract, Figure 3), while *Lettvin* teaches a bootstrap-time operating system [executed before the operating system is booted] that causes the computer to execute one or more anti virus or other programs and that facilitates the development and use of programs that **must be executed before** an ultimate operating system is executed (column 4, lines 45-64).

Lettvin explains that executing [anti-virus software] before the ultimate operating system [executes] provides advantages to antivirus software because the software can take advantage of conditions within the computer that **only exist during bootstrap** and **do not exist after** the computer begins executing the ultimate operating system (column 4, lines 64-column 5, line 2). *Lettvin* further explains that viruses can, for example, modify the [boot sector] disk interrupt vector to point to themselves, and which is difficult to detect (column 5, lines 2-26).

Thus *Lettvin* seeks to avoid using an operating system, which can be hijacked by a virus on the boot sector of the disk used to boot the operating system. As described above, *Lettvin* instead teaches antivirus software that **must be executed before** executing the operating system, which avoids executing an operating system that may be compromised by a virus.

Ho is directed to (column 3, lines 31-46) teaches an anti-virus scanning module **with an operating system** that provides library functions for accessing computer virus signatures in a database. Accessing the computer virus signatures thus require using the library functions provided by the operating system. The alleged motivations to combine the references (for example, a plurality of virus signatures that can be continuously updated and/or replaced, to detect newly occurring viruses, to detect newly created viruses asap, to detect viruses during all phases of OS usage, and downloading the virus signatures from an external repository), as taught by the cited art, **would require the use an operating system** (which can be compromised by a boot sector virus, for example) to make the virus signatures available to the antivirus software. Thus, to combine *Lettvin* with *Ho* would significantly change the principle of operation of *Lettvin* by requiring the use of an operating system which *Lettvin* seeks to avoid.

Applicants further note that the “mere statement that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish prima facie obviousness.” MPEP § 2143.01. Furthermore, the mere “fact that references can be combined or modified may be not sufficient to establish prima facie obviousness.” *Id.* The tendency to resort to “hindsight” based upon Applicant’s disclosure is often difficult to avoid due to the very nature of the examination process.

However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.” MPEP § 2142.

Consequently, the combination of *Lettvin* and *Ho* fail to teach or suggest all elements of claim 1, as required under M.P.E.P. § 2143.03. Independent claims 12, 23, and 27 include similar nonobvious elements as discussed above in connection with independent claim 1. Accordingly, Applicants request that the instant §103(a) rejections of claims 1, 12, 20 and 27 be withdrawn.

With further regard to claim 27, the office action asserts that *Ho* teaches a virtual machine monitor (VMM) to support at least one virtual machine (VM). According to the instant specification:

A VM behaves like a complete physical machine that can run its own OS. Usually, each VM session is given the illusion by the VMM that it is the only physical machine. The VMM takes control whenever a VM attempts to perform an operation that may affect the whole computer system 100. Each VM supports a corresponding OS and firmware. Multiple VM sessions are separate entities and usually isolated from each other by the VMM. If one OS crashes or otherwise becomes unstable, the other OS’s should not be adversely affected.

In contrast, *Ho* instead teaches a virtual scanning processor that is provided at the application program (AP) 302 (column 5, lines 31-33). Other virtual machines can also be provided at the AP level 302 (column 5, lines 36-37). Thus, *Ho* does not teach a VMM as the operating system because the virtual scanning processor and virtual machines execute using a single operating system 300 and does not use a separate

operating system for each virtual monitor. Accordingly, Applicants request that the instant §103(a) rejections of claim 27 be withdrawn.

The dependent claims are novel and nonobvious over the cited references for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own. Accordingly, Applicants respectfully request that the instant § 103 rejections of the dependent claims also be withdrawn.

CONCLUSION

In view of the foregoing remarks, Applicants believe the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative at (206) 292-8600 if the Examiner believes that an interview might be useful for any reason.

CHARGE DEPOSIT ACCOUNT

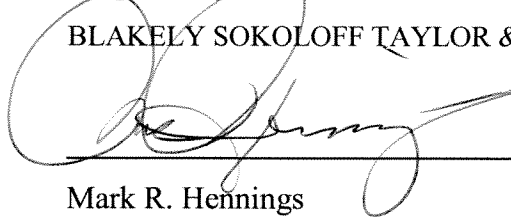
It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Date: _____

1/15/08

Respectfully submitted,

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